



National Aeronautics and
Space Administration
Lyndon B. Johnson Space Center
Houston, Texas



Exchange operations

Changes in JSC Exchange Operations are expected to improve services to employees. Story on Page 3.

713
281

Code dilemma

Information Systems provide a map of area codes changes to help employees during transition. Graphic on Page 4.

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NASA Photo

Columbia makes its way to Launch Pad 39B for STS-80. The crew—Commander Ken Cockrell, Pilot Kent Rominger and Mission Specialists Tammy Jernigan, Tom Jones and Story Musgrave—was at Kennedy Space Center this week for a dress rehearsal of the Nov. 8 launch.

JSC area code changes next month

When JSC's area code changes next month employees may find it difficult to determine if they have to dial seven or 10 digits to reach their intended party.

The Texas Public Utilities Commission recently voted to split area codes in the Houston area. This

split requires all phones outside Beltway 8 loop, including JSC, to change to the new area code 281.

"But the most difficult aspect of the change is whether an individual has to dial seven digits or all 10," said Don White of the Information Technology Office. "This change in

area codes will not change internal calling at JSC and employees will still be able to call a five-digit extension to reach co-workers on site and at Ellington Field."

The new area codes will become effective Nov. 2, but employees will Please see **INFORMATION**, Page 4

Columbia cargo, crew in position for next mission

Columbia's two main cargoes for STS-80 are in its payload bay and the crew and the launch team have been through a dress rehearsal countdown as work toward a launch as early as Nov. 8 rolls ahead.

Shuttle managers are scheduled to meet on Monday for the Flight Readiness Review, a final, thorough review of preparations for STS-80, following which an official launch date will be announced.

STS-80 Commander Ken Cockrell, Pilot Kent Rominger, and Mission Specialists Tammy Jernigan, Tom Jones and Story Musgrave participated with Kennedy Space Center launch controllers in the Terminal Countdown

Demonstration Test on Wednesday. The ORFEUS-SPAS astronomy satellite and the Wake Shield Facility, both of which will fly free of Columbia, were installed in the orbiter's cargo bay Monday.

Other work included fueling the reaction control system and leak checks of the main engine plumbing.

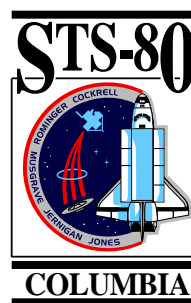
Elsewhere, preparations of Atlantis continued for a January 1997 launch on STS-81, the fifth shuttle-Mir docking flight. Currently

in the Bay 3 processing hangar, work this week included removal and replacement of the wiring associated with auxiliary power unit 2, which failed during Atlantis' last mission, STS-79. The APU itself, one of three such units that power Atlantis' hydraulic systems, was removed shortly after the mission and has

been at the vendor undergoing analysis. Other work included the removal of the three main engines used for STS-79 on Monday and Tuesday and functional testing of the forward reaction control system. The main engines for STS-81 will be installed during the first week of November.

In KSC's Bay 2 shuttle hangar, Discovery is being readied for a February 1997 launch on STS-82, the second Hubble Space Telescope servicing mission.

The three STS-82 shuttle main engines were installed in Discovery this week, and repairs of thermal protection blankets on the payload bay doors are continuing with the doors closed. Upcoming activities include the installation of the left orbital maneuvering system pod beginning next week.



JSC employees receive Suggestion, Tech Brief, Patent Awards

JSC Director George Abbey presented JSC employees with Suggestion, Tech Brief and Patent Application Awards on Monday.

Robert Savey of the Business and Information Systems Directorate received a Certificate of Appreciation from the NASA Software Advisory Council.

Suggestions Awards were handed out to the Engineering Directorate's Marvin Williams, Roger Megason and Herbert Mitchell for the Orbiter Refueling Target Manufacturing suggestion; Paul Torrance of the Safety, Reliability and Quality Assurance Directorate for the Use of Government Surplus Cylinders for Blend Gas Orders suggestion; Beatrice Santos of Engineering for the Transport of Biological Sample Holding System Training Hardware to Russia suggestion; and Fulton Plache and Howard Wagner of Engineering for the Teardown of Space Shuttle PRSD Cryogenic Tanks suggestion.

The Engineering Directorate collected the majority of Tech Brief Awards including; William Schneider for the Apparatus and

Method for Remotely Attaching to an Orbiting Spacecraft or Satellite; Kathryn Hurlbert, Michael Stagnaro, Chris Lovchik and Dominic Del Rosso for the WETF Inertial Training Sphere; Larry Li for the Control System for DeXterous Robots; Richard Juday for the Means and Apparatus for Optical Interconnections and Addressing Optical Storage Media; Douglas Holland for the M-JPEG Video Compression System for Space Based Applications; and Patrick Fink for the Ka-Band Solid State Amplifier/Phase Shift Module.

Other Tech Brief award winners from Engineering include Bernard Rosenbaum for the Wire Mesh for Disconnects Lightning Strike Protection; James Akkerman for the Pivot Bearing/Permanent Magnet; Ross Iacomini for the Tensioner Mechanism for Thermal Isolation of a Space Structure; Gregory Aber for the Blood Pump Bearing System; David Altemir and Michael Fowler for the Two-Sided Composite Manufacturing Tool; Steven Koontz for the NASA Micro Reactor Array Assay System; and Ted Tsai

for the Compact, Stiff, Remote-Activated Lightweight Quick-Release Clamp.

Engineering's William Schneider and John McManamen shared Tech Brief honors with Kornel Nagy of the Space Station Project Office for the Magnetic/Extendable Boom Docking Aid. William Schneider, Christopher Hansen, John McManamen, Steven Rickman and Sharon Whitcomb of Engineering and Gautam Badhwar of the Space and Life Sciences Directorate received a tech brief award for the Device for Vibrational and Thermal Control of Spacecraft Electronics - Method and Apparatus. Jose Limardo-Rodriguez of Engineering and Richard Sauer and Duane Pierson of the Space and Life Sciences Directorate received honors for their brief on Steam Heat Sterilization Process for Closed Packed Columns. Ronald Zaguli of the Space Station Project Office received an award for the Portable Foot Restraint Attachment Device and Space and Life Sciences' John Rummel was honored for the Program Integration Management System.

The Space and Life Sciences Directorate also took home a large number of Tech Brief awards including Steven Siconolfi for the Soft-Side Air Displacement Volumometer; Scott Smith for a Unique Urine Preservative with Combined Antibacterial and Antioxidant Properties; Smith and Helen Lane for a Novel Random-Sample Urine Collection Device For Use on Shuttle; Thomas Smith for the Spherical Gas Bearing; and Richard Sauer and Duane Pierson for the Water Microbiology Kit.

Other Space and Life Science Tech Brief recipients include Pierson for the Continuous Optical Biofilm Measurement System, Space Flight Compatible System to Study Microbial Susceptibility to Antibiotics, a Novel Set of Primers for Detection of Cytomegalovirus DNA in Body Fluids and Tissue and a Novel Polymerase Chain Reaction Method for Rapid Detection of Herpesviruses; and Deborah Harms for an Ambulatory Physiological Data Recorder for Assessment of Autonomic and

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Blaha continues research

Cosmonaut Researcher John Blaha, now into his second month aboard the Russian Mir Space Station, is working with his two crew mates to add to the base of knowledge on a variety of experiments by collecting data and processing samples under the NASA-Mir science program.

During his four months on orbit, Blaha is working on 40 different experiments in seven major areas of scientific investigation designed to answer vital questions about how humans, animals and plants function in space, how this solar system originated and developed, how to build better technology in space and how to better build future space stations.

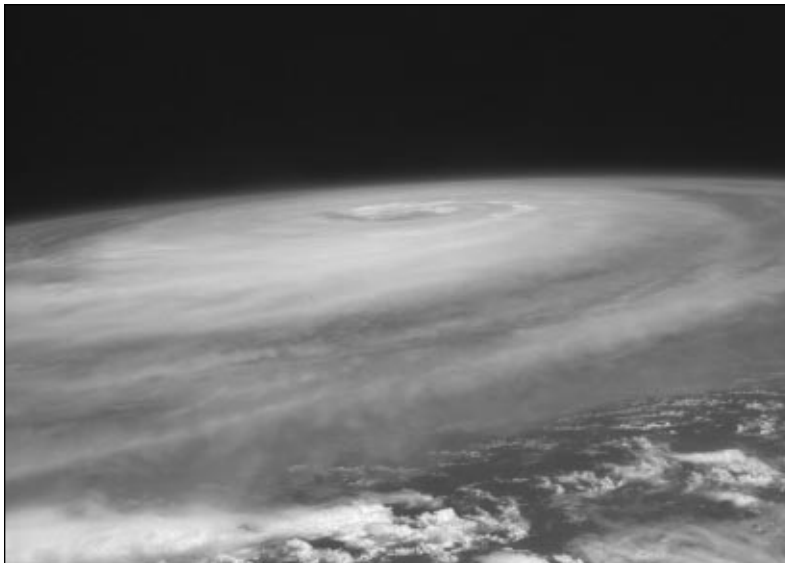
Earth observations are continuing throughout the joint mission, using cameras on board Mir to document

changes on the Earth's surface, providing researchers with a better understanding of the planet and its atmosphere. Recent observation areas include the Panama Canal zone, the central Namibian Coast, the South Falkland Island ocean currents and South Africa.

Other scientific investigations this week included work with the passive accelerometer system, which is meant to provide researchers with information on the amount of residual gravity present on Mir by observing the motion of a small metallic ball as it travels down a narrow cylinder.

In a recent interview, NASA-Mir program Operations and Training Manager Jeff Cardenas discussed Blaha's progress on Mir thus far.

"He's getting along very well, from Please see **SHEPHERD**, Page 4



NASA Photo

This STS-79 photo of Typhoon Violet north of the Philippines is similar to the Earth observations Mir 22 Cosmonaut Researcher John Blaha is performing on the Russian Mir Space Station.

White Sands provides ISO foundation

The lessons learned by the Hammer Award-winning team that made White Sands Test Facility the first NASA installation to meet ISO 9001 quality and management system requirements are directly applicable to JSC overall, the WSTF manager told senior managers last Friday.

One major element in the White Sands success was the direct involvement of the NASA and ATSC top management, WSTF Manager Grady McCright said in a special senior staff meeting. Deputy Manager Joe Fries served as the management representative, playing a key role in implementing

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